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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/236,017	01/22/99	GREVEN R	

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IM62/0421

EXAMINER

ROSSI, J

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 04/21/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/236,017

Applicant(s)

Greven, Richard

Examiner

Jessica L Rossi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claims ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some * c) ☐ None of the CERTIFIED copies of the priority documents have been:
1. ☐ received.
2. ☐ received in Application No. (Series Code / Serial Number) ____.
3. ☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

- 14) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

- 14) ☒ Notice of References Cited (PTO-892)
- 15) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 16) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 17) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 18) ☐ Notice of Informal Patent Application (PTO-152)
- 19) ☐ Other:

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DETAILED ACTION

Drawings

1. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

Specification

2. The abstract of the disclosure is objected to because it consists of more than one paragraph. Correction is required. See MPEP § 608.01(b).

3. The disclosure is objected to because of the following informalities:

Page 1, line 28: delete "other the" after the word "of".

Page 14, line 27: delete the word "oppesd" and insert the word --opposed--.

Page 16, line 7: delete "the n" and insert --then--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 4, 5, 15, and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 4, 5, 15, and 16 it is unclear as to how the contoured arcs extending along the longitudinal axis and across the transverse axis can define a convex, symmetrical arc between opposite sides on one of the surfaces where the convex arc is significantly higher at one

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of the sides and tapers across the transverse axis and along the longitudinal axis to a significantly lower height at the other side. Applicant is asked to clarify.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 3-8, and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gnagy et al. US (5119535).

With respect to claim 1, Gnagy et al., directed to a method for reconfiguring structures into more complex configurations, teaches cutting a honeycomb core to a desired thickness from a block of core material, heating the honeycomb in an oven, forming the honeycomb against a mold by applying pressure to bend the honeycomb thereby creating a contoured shape along the longitudinal axis and across the transverse axis, and allowing the formed honeycomb to cool and set into its desired configuration having an arc extending along the longitudinal axis and across the transverse axis (column 4, lines 56-62; column 8, lines 11-13; column 4, lines 67-68; column 11; lines 65-68; column 12 lines 12-15; column 8, lines 65-66; Figure 1; Figure 15). Although the reference cites heating the honeycomb in an oven prior to forming against a mold, it would have been within purview of one of ordinary skill in the art to form the honeycomb at ambient temperature absent any unexpected results.

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Regarding claims 3-5, Gnagy et al. teaches a molded honeycomb core that has a concave, symmetrical contour on its upper and bottom surfaces (Figure 15). Since it is known to use such technology as that described by Gnagy et al. to form complex shapes from a honeycomb core, the formation of particular complex shapes would be within purview of one of ordinary skill in the art absent any unexpected results or assertion of novelty per se (column 6, lines 12-15).

Regarding claim 6, Gnagy et al. teaches cutting the honeycomb core to a desired thickness, placing the core in between a flexible membrane 68 and a mold 74 having top, bottom, end, and side walls with the top wall having a contoured configuration, applying pressure to form the core 100 against the top surface of the mold 74 by penetrating the box 66 until the final configuration of the core has been adapted to the contour configuration in the top wall of the mold 74, and further applying pressure to bend the formed core to achieve a desired arc configuration (column 11, lines 65-68; column 12, lines 9-15; column 12, lines 43-46; column 12, lines 66-68; column 13; lines 17-19; column 8, lines 11-13; Figure 17; Figure 15). Although the reference is silent as to a second cutting step after the forming step and prior to the bending step, it would have been obvious to one of ordinary skill in the art to include a second cutting step after forming and prior to bending in order to remove excess honeycomb material.

Regarding claim 7, the contoured configuration in the top wall of the mold 56 is concave (Figure 13).

Regarding claim 8, the reference teaches chamfering the edge portions of the honeycomb core during the first cutting step (column 5, lines 1-4).

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Regarding claims 14-16, since it is known to use such technology as that described by Gnagy et al. to form complex shapes from a honeycomb core, the formation of particular complex shapes would be within purview of one of ordinary skill in the art absent any unexpected results or assertion of novelty per se (column 6, lines 12-15).

8. Claims 2, 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gnagy et al. in view of Chimiak (US 5514017).

Regarding claim 2, Chimiak, directed to constructing a surfboard from a honeycomb core, teaches bonding a first layer 25 of fiber reinforced resin material to the top surface, bottom surface, and sides of the honeycomb core (column 1, lines 66-67; column 4, lines 4-16; Figure 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to bond the material taught by Chimiak to the honeycomb core of Gnagy et al. to provide structural rigidity and maintain the shape of the core (Chimiak, column 3, lines 61-63).

Regarding claim 9, Chimiak teaches a honeycomb core that can be made of paper fibers (column 3, lines 47-48). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the honeycomb core taught by Chimiak to form the complex shapes of Gnagy et al. because this material is lightweight and strong (column 3, lines 23-24).

Regarding claims 10-11, Chimiak teaches bonding a first, glass fiber reinforced resin layer 25 to the top surface, bottom surface, and sides of the honeycomb core (column 1, lines 66-67; column 4, lines 4-16; Figure 1). The reference also teaches a second, epoxy resin layer 27 applied to the fiber reinforced layer 25 thereby saturating the layer 25 and coating the top and bottom surfaces and side edges of the honeycomb core (column 2, lines 1-5; Figure 1). It would

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have been obvious to one of ordinary skill in the art at the time the invention was made to apply the epoxy resin layer 27 taught by Chimiak to the honeycomb core of Gnagy et al., because this layer provides a smooth surface on the honeycomb core (Chimiak, column 2, lines 4-5).

Regarding claim 12, although Chimiak is silent as to the epoxy resin layer 27 being glass or Kevlar, selection of the type of epoxy resin for layer 27 would have been within purview of one of ordinary skill in the art depending on the desired characteristics of this layer.

9. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gnagy et al. and Chimiak as applied to claims 2 and 9-12 above, and further in view of Long (US 4013810).

With respect to claim 13, Long, directed to forming complicated shapes, teaches a thermoplastic honeycomb core 12 molded in between two sheets 10 and 11 which are bonded to the core (column 3, lines 55-57; Figure 1). The sheets 10 and 11 are made of a resin containing hollow glass spheres (column 2, lines 50-54). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the hollow glass spheres taught by Long into the resin mixture of Chimiak to impart certain structural characteristics to the layers bonded to the honeycomb core of Gnagy et al.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Jessica L Rossi** whose telephone number is **703-305-5419**. The examiner can normally be reached on M-F (7:30-5:00) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Ball can be reached on 703-308-2058. The fax phone numbers for the

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organization where this application or proceeding is assigned are 703-305-7718 for regular communications and 703-305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Jessica L. Rossi
Patent Examiner *JLR*
Art Unit 1733

jlr
April 17, 2000

Michael W. Ball
Michael W. Ball
Supervisory Patent Examiner
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